

Evaluation and Certification of Ambersorb 4652 for use in Activated Carbon Ion Exchange Filters for the International Space Station

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In order to reduce the infiltration of dimethylsilanediol (DMSD) and other organosilicon containing species through the Multifiltration Beds (MF Beds), an alternate activated carbon was found to replace the obsolete Barnabey Cheney 580-26 activated carbon. The carbon that removed the most organosilicon compounds in testing¹ was a synthetic activated carbon named Schunk 4652 which later became Ambersorb 4652. Since activated carbon has a large capacity for iodine (I₂), and is used in the Activated Carbon Ion Exchange (ACTEX) filters on the International Space Station (ISS), testing was performed on the Ambersorb 4652 carbon to determine the effectiveness of the material for use in ACTEX filters to remove iodine. This work summarizes the testing and the certification of Ambersorb 4652 for use in the ACTEX filters for the ISS.

References

¹Rector, T., Metselaar, C., Peyton, B., Steele, J., Michalek, W., Bowman, E., Wilson, M., Gazda, D., and Carter, L. 2014. "An Evaluation of Technology to Remove Problematic Organic Compounds from the International Space Station Potable Water" presented at the 44th International Conference on Environmental Systems, Tucson, Arizona, July, 2014.